



COPY

MATERIAL SAFETY DATA SHEET

97368 (4-85)

MSDS NUMBER ▶

7,780-12T

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24 HOUR EMERGENCY ASSISTANCE			GENERAL MSDS ASSISTANCE		
SHELL: 713-473-9461 CHEMTREC: 800-424-9300			SHELL: 713-241-4819		
ACUTE HEALTH + 2	FIRE 4	REACTIVITY 0	HAZARD RATING LEAST - 0 SLIGHT - 1 MODERATE - 2 HIGH - 3 EXTREME - 4		
*For acute and chronic health effects refer to the discussion in Section III					



SECTION I	NAME
PRODUCT ▶	SHELL SOL B HT
CHEMICAL NAME ▶	SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC
CHEMICAL FAMILY ▶	HYDROCARBON SOLVENT
SHELL CODE ▶	83285

SECTION II-A		PRODUCT/INGREDIENT	
NO.	COMPOSITION	CAS NUMBER	PERCENT
P	SHELL SOL B HT*		
1	SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	64742-89-8	100
	CONTAINS		
A	N-HEXANE	110-54-3	25-35
B	CYCLOHEXANE	110-82-7	1-2
C	2-METHYL PENTANE	107-83-5	20-24
D	3-METHYL PENTANE	96-14-0	18-23

*A COMPLEX COMBINATION OF PREDOMINATELY C5 TO C8 HYDROCARBONS. EXACT COMPOSITION WILL VARY.

HMIS HAZARD RATING: HEALTH 1 FIRE 3 REACTIVITY 0

SECTION II-B		ACUTE TOXICITY DATA	
NO.	ACUTE ORAL LD50	ACUTE DERMAL LD50	ACUTE INHALATION LC50
P	NOT AVAILABLE		
1*	>25 ML/KG (RAT)	>5 ML/KG (RABBIT)	73,680 PPM/4H (RAT)
A	28.7 G/KG (RAT)	N/A	77,000 PPM/1H (RAT)

*BASED UPON TESTING OF EITHER PRODUCT OR ESSENTIALLY SIMILAR PRODUCTS.

SECTION III HEALTH INFORMATION

THE HEALTH EFFECTS NOTED BELOW ARE CONSISTENT WITH REQUIREMENTS UNDER THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200).

EYE CONTACT

BASED ON PRODUCT TESTING LIQUID IS PRACTICALLY NONIRRITATING TO THE EYES. HIGH VAPOR CONCENTRATIONS MAY BE IRRITATING.

SKIN CONTACT

BASED ON PRODUCT TESTING LIQUID IS MILDLY IRRITATING TO THE SKIN. PROLONGED OR REPEATED LIQUID CONTACT CAN RESULT IN DEFATTING AND DRYING OF THE SKIN WHICH MAY RESULT IN SKIN IRRITATION AND

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DERMATITIS.

INHALATION

VAPORS MAY CAUSE IRRITATION TO THE NOSE, THROAT AND RESPIRATORY TRACT. HIGH VAPOR CONCENTRATIONS MAY CAUSE CENTRAL NERVOUS SYSTEM (CNS) DEPRESSION. PROLONGED AND REPEATED INHALATION OF N-HEXANE (A COMPONENT OF THIS PRODUCT) MAY PRODUCE PERIPHERAL AND CENTRAL NERVE DAMAGE.

INGESTION

INGESTION OF PRODUCT MAY RESULT IN VOMITING; ASPIRATION (BREATHING) OF VOMITUS INTO THE LUNGS MUST BE AVOIDED AS EVEN SMALL QUANTITIES MAY RESULT IN ASPIRATION PNEUMONITIS.

SIGNS AND SYMPTOMS

IRRITATION AS NOTED ABOVE. EARLY TO MODERATE CNS DEPRESSION MAY BE EVIDENCED BY GIDDINESS, HEADACHE, DIZZINESS AND NAUSEA; IN EXTREME CASES, UNCONSCIOUSNESS AND DEATH MAY OCCUR. ASPIRATION PNEUMONITIS MAY BE EVIDENCED BY COUGHING, LABORED BREATHING AND CYANOSIS (BLUISH SKIN); IN SEVERE CASES DEATH MAY OCCUR. PERIPHERAL NERVE DAMAGE MAY BE EVIDENCED BY MUSCULAR WEAKNESS AND LOSS OF SENSATION IN THE ARMS AND LEGS.

AGGRAVATED MEDICAL CONDITIONS

PREEXISTING EYE, SKIN, RESPIRATORY DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT. IMPAIRED PERIPHERAL NERVE FUNCTIONS FROM PREEXISTING DISORDERS MAY BE AGGRAVATED BY EXPOSURE TO A COMPONENT OF THIS PRODUCT.

SEE SECTION VI FOR SUPPLEMENTAL INFORMATION.

SECTION IV**OCCUPATIONAL EXPOSURE LIMITS**

NO.	PEL/TWA	PEL/CEILING	TLV/TWA	ACGIH	TLV/STEL	OTHER
P	NOT AVAILABLE					
1*	500 PPM		400 PPM			
A	50 PPM		50 PPM			
B	300 PPM		300 PPM			

*EXPOSURE LIMITS FOR RUBBER SOLVENT RECOMMENDED AS A GUIDELINE.

SECTION V**EMERGENCY AND FIRST AID PROCEDURES****EYE CONTACT**

FLUSH EYES WITH WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

SKIN CONTACT

REMOVE CONTAMINATED CLOTHING/SHOES. FLUSH SKIN WITH WATER. FOLLOW BY WASHING WITH SOAP AND WATER. IF IRRITATION OCCURS, GET MEDICAL ATTENTION. DO NOT REUSE CLOTHING UNTIL CLEANED.

INHALATION

REMOVE VICTIM TO FRESH AIR AND PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET MEDICAL ATTENTION.

INGESTION

DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO PREVENT ASPIRATION OF LIQUID INTO THE LUNGS. GET MEDICAL ATTENTION.*

NOTE TO PHYSICIAN

*IF MORE THAN 2.0 ML PER KG HAS BEEN INGESTED AND VOMITING HAS NOT OCCURRED, EMESIS SHOULD BE INDUCED WITH SUPERVISON. KEEP VICTIM'S HEAD BELOW HIPS TO PREVENT ASPIRATION. IF SYMPTOMS SUCH AS LOSS OF GAG REFLEX, CONVULSIONS OR UNCONSCIOUSNESS OCCUR BEFORE EMESIS, GASTRIC LAVAGE USING A CUFFED ENDOTRACHEAL TUBE SHOULD BE CONSIDERED.

SECTION VI**SUPPLEMENTAL HEALTH INFORMATION**

THIS PRODUCT MAY CONTAIN CERTAIN ISOPARAFFINS THAT HAVE BEEN DEMONSTRATED TO CAUSE KIDNEY DAMAGE IN MALE RATS AND CARDIAC SENSITIZATION IN OTHER SPECIES. THE RELEVANCE OF THE KIDNEY EFFECTS TO MAN IS UNKNOWN. THERE IS NO EVIDENCE THAT EXPOSURE TO INDUSTRIALLY ACCEPTABLE LEVELS OF HYDROCARBONS (E.G., THE TLV) HAVE PRODUCED CARDIAC EFFECTS IN HUMANS. SUCH SENSITIZATION, HOWEVER, MAY CAUSE FATAL CHANGES IN HEART RHYTHM. THIS LATTER EFFECT HAS BEEN SHOWN TO BE ENHANCED BY HYPOXIA OR THE

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INJECTION OF ADRENALIN-LIKE AGENTS.

STUDIES ON N-HEXANE IN LABORATORY ANIMALS HAVE SHOWN MILD, TRANSITORY EFFECTS ON THE SPLEEN AND BLOOD (WHITE BLOOD CELLS), AND EVIDENCE OF LUNG DAMAGE. IN ADDITION, FETOTOXICITY HAS BEEN DEMONSTRATED AT LEVELS PRODUCING MATERNAL TOXICITY. AT HIGH LEVELS, INHALATION EXPOSURE HAS RESULTED IN TESTICULAR AND EPIDIDYMAL ATROPHY.

REPEATED EXPOSURES OF RABBITS TO HIGH VAPOR CONCENTRATION OF CYCLOHEXANE CAUSED SLIGHT INCREASE IN BLOOD CLOTTING TIME AND MINOR MICROSCOPIC CHANGES IN LIVER AND KIDNEY. CYCLOHEXANE WAS NOT MUTAGENIC IN THE AMES TEST BUT CAUSED A DOSE-RELATED INCREASE IN SISTER CHROMATID EXCHANGE IN CULTURED HUMAN LYMPHOCYTE CELLS.

SECTION VII

PHYSICAL DATA

BOILING POINT: 142-183 (DEG F) SPECIFIC GRAVITY: 0.674 (H2O=1) @60 DEG F VAPOR PRESSURE: 320 (MM HG) @ 100 DEG F

MELTING POINT: NOT AVAILABLE (DEG F) SOLUBILITY: NEGLIGIBLE (IN WATER) VAPOR DENSITY: 2.9 (AIR=1)

EVAPORATION RATE (N-BUTYL ACETATE = 1): 9.1 VOC: 100% @5.52 LB/GAL @77 DEG F

APPEARANCE AND ODOR:
COLORLESS LIQUID. HYDROCARBON ODOR.

SECTION VIII

FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD:
0 DEG F (TCC)

FLAMMABLE LIMITS % VOLUME IN AIR
LOWER: 1 UPPER: 7

EXTINGUISHING MEDIA

USE WATER FOG, FOAM, DRY CHEMICAL OR CO2. DO NOT USE A DIRECT STREAM OF WATER. PRODUCT WILL FLOAT AND CAN BE REIGNITED ON SURFACE OF WATER.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

DANGER. EXTREMELY FLAMMABLE. CLEAR FIRE AREA OF UNPROTECTED PERSONNEL AND ISOLATE. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS), INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER.

UNUSUAL FIRE AND EXPLOSION HAZARDS

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION IX

REACTIVITY

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS AND MATERIALS TO AVOID:

AVOID HEAT, SPARKS, FLAME AND CONTACT WITH STRONG OXIDIZING AGENTS. PREVENT VAPOR ACCUMULATION.

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HAZARDOUS DECOMPOSITION PRODUCTS

CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION X

EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

AVOID PROLONGED OR REPEATED BREATHING OF VAPORS. IF EXPOSURE MAY OR DOES EXCEED OCCUPATIONAL EXPOSURE LIMITS (SEC. IV) USE A NIOSH-APPROVED RESPIRATOR TO PREVENT OVEREXPOSURE. IN ACCORD WITH 29 CFR 1910.134 USE EITHER AN ATMOSPHERE-SUPPLYING RESPIRATOR OR AN AIR-PURIFYING RESPIRATOR FOR ORGANIC VAPORS.

PROTECTIVE CLOTHING

AVOID CONTACT WITH EYES. WEAR SAFETY GLASSES OR GOGGLES AS APPROPRIATE. AVOID PROLONGED OR REPEATED CONTACT WITH SKIN. WEAR CHEMICAL-RESISTANT GLOVES AND OTHER CLOTHING AS REQUIRED TO MINIMIZE CONTACT. TEST DATA FROM PUBLISHED LITERATURE AND/OR GLOVE AND CLOTHING MANUFACTURERS INDICATE THE BEST PROTECTION IS PROVIDED BY A NITRILE BARRIER.

ADDITIONAL PROTECTIVE MEASURES

USE EXPLOSION-PROOF VENTILATION AS REQUIRED TO CONTROL VAPOR CONCENTRATIONS. AIR-DRY CONTAMINATED CLOTHING IN A WELL VENTILATED AREA, THEN LAUNDRER BEFORE REUSING.

SECTION XI

ENVIRONMENTAL PROTECTION

SPILL OR LEAK PROCEDURES

DANGER. EXTREMELY FLAMMABLE. ELIMINATE ALL IGNITION SOURCES. HANDLING EQUIPMENT MUST BE GROUNDED TO PREVENT SPARKING. *** LARGE SPILLS *** ISOLATE THE HAZARD AREA AND DENY ENTRY TO UNNECESSARY PERSONNEL. WEAR APPROPRIATE RESPIRATOR AND PROTECTIVE CLOTHING. SHUT OFF SOURCE OF LEAK ONLY IF SAFE TO DO SO. DIKE AND CONTAIN. WATER FOG MAY BE USEFUL IN SUPPRESSING VAPOR CLOUD; CONTAIN RUN-OFF. REMOVE WITH VACUUM TRUCKS OR PUMP TO STORAGE/SALVAGE VESSELS. SOAK UP RESIDUE WITH AN ABSORBENT SUCH AS CLAY, SAND OR OTHER SUITABLE MATERIAL; PLACE IN NON-LEAKING CONTAINERS FOR PROPER DISPOSAL. FLUSH AREA WITH WATER TO REMOVE TRACE RESIDUE; DISPOSE OF FLUSH SOLUTIONS AS ABOVE. *** SMALL SPILLS *** TAKE UP WITH AN ABSORBENT MATERIAL AND PLACE IN NON-LEAKING CONTAINERS; SEAL TIGHTLY FOR PROPER DISPOSAL.

SECTION XII

SPECIAL PRECAUTIONS

KEEP LIQUID AND VAPOR AWAY FROM HEAT, SPARKS AND FLAME. SURFACES THAT ARE SUFFICIENTLY HOT MAY IGNITE EVEN LIQUID PRODUCT IN THE ABSENCE OF SPARKS OR FLAME. EXTINGUISH PILOT LIGHTS, CIGARETTES AND TURN OFF OTHER SOURCES OF IGNITION PRIOR TO USE AND UNTIL ALL VAPORS ARE GONE. VAPORS MAY ACCUMULATE AND TRAVEL TO IGNITION SOURCES DISTANT FROM THE HANDLING SITE; FLASH-FIRE CAN RESULT. KEEP CONTAINERS CLOSED WHEN NOT IN USE. USE WITH ADEQUATE VENTILATION.

CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, CAN CONTAIN EXPLOSIVE VAPORS. DO NOT CUT, DRILL, GRIND, WELD OR PERFORM SIMILAR OPERATIONS ON OR NEAR CONTAINERS. DO NOT PRESSURIZE DRUM CONTAINERS TO EMPTY THEM.

STATIC ELECTRICITY MAY ACCUMULATE AND CREATE A FIRE HAZARD. GROUND FIXED EQUIPMENT. BOND AND GROUND TRANSFER CONTAINERS AND EQUIPMENT.

WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, APPLYING COSMETICS, OR USING TOILET FACILITIES. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE. AIR-DRY CONTAMINATED CLOTHING IN A WELL VENTILATED AREA BEFORE LAUNDERING.

SECTION XIII

TRANSPORTATION REQUIREMENTS

DEPARTMENT OF TRANSPORTATION CLASSIFICATION:
CLASS 3 (FLAMMABLE LIQUIDS), II

D.O.T. PROPER SHIPPING NAME:
PETROLEUM DISTILLATES, N.O.S. (PETROLEUM NAPHTHA)

OTHER REQUIREMENTS:
UN1268, GUIDE 27

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SECTION XIV

OTHER REGULATORY CONTROLS

THIS PRODUCT IS LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

PROTECTION OF STRATOSPHERIC OZONE (PURSUANT TO SECTION 611 OF THE CLEAN AIR ACT AMENDMENTS OF 1990): PER 40 CFR PART 82. THIS PRODUCT DOES NOT CONTAIN NOR WAS IT DIRECTLY MANUFACTURED WITH ANY CLASS I OR CLASS II OZONE DEPLETING SUBSTANCES.

IN ACCORDANCE WITH SARA TITLE III, SECTION 313, THE ENVIRONMENTAL DATA SHEET (EDS) SHOULD ALWAYS BE COPIED AND SENT WITH THE MSDS.

SECTION XV

STATE REGULATORY INFORMATION

THE FOLLOWING CHEMICALS ARE SPECIFICALLY LISTED BY INDIVIDUAL STATES; OTHER PRODUCT SPECIFIC HEALTH AND SAFETY DATA IN OTHER SECTIONS OF THE MSDS MAY ALSO BE APPLICABLE FOR STATE REQUIREMENTS. FOR DETAILS ON YOUR REGULATORY REQUIREMENTS YOU SHOULD CONTACT THE APPROPRIATE AGENCY IN YOUR STATE.

STATE LISTED COMPONENT	PERCENT	STATE CODE
HEXANE, N- (CAS NO: 110-53-3)	25-35	CA, CT, FL, IL, LA, MA, ME, MN, NJ, PA, RI
CYCLOHEXANE (CAS NO: 110-82-7)	1-2	CA, CT, FL, IL, LA, MA, ME, MN, NJ, PA, RI
METHYL PENTANE, 2- (CAS NO: 107-83-5)	20-24	FL, MA, MN, PA
METHYL PENTANE, 3- (CAS NO: 96-14-0)	18-23	FL, MA, PA
BENZENE (CAS NO: 71-43-2)	<50 PPM	MA, CA65C

CA = CALIFORNIA HAZ. SUBST. LIST; CA65C, CA65R, CA65C/R = CALIFORNIA SAFE DRINKING WATER AND TOXICS ENFORCEMENT ACT OF 1986 OR PROPOSITION 65 LIST; CT = CONNECTICUT TOXIC. SUBST. LIST; FL = FLORIDA SUBST. LIST; IL = ILLINOIS TOX. SUBST. LIST; LA = LOUISIANA HAZ. SUBST. LIST; MA = MASSACHUSETTS SUBST. LIST; ME = MAINE HAZ. SUBST. LIST; MN = MINNESOTA HAZ. SUBST. LIST; NJ = NEW JERSEY HAZ. SUBST. LIST; PA = PENNSYLVANIA HAZ. SUBST. LIST; RI = RHODE ISLAND HAZ. SUBST. LIST.

CALIFORNIA PROPOSITION 65 FOOTNOTE: CA65C = THE CHEMICAL IDENTIFIED WITH THIS CODE IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER. CA65R = THE CHEMICAL IDENTIFIED WITH THIS CODE IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. CA65C/R = THE CHEMICAL IDENTIFIED WITH THIS CODE IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BOTH CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

SECTION XVI

SPECIAL NOTES

THIS MSDS REVISION HAS CHANGES IN SECTION XV - STATE REGULATORY INFORMATION

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THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, SHELL MAKES NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. SHELL ASSUMES NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.

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BE SAFE

READ OUR PRODUCT
SAFETY INFORMATION ...AND PASS IT ON
(PRODUCT LIABILITY LAW
REQUIRES IT)

J. C. WILLETT

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